Progastrin, a new blood biomarker for the diagnostic and therapeutic monitoring, in gastro-intestinal cancers: A BIG-RENAPE project.

Abstract #1953

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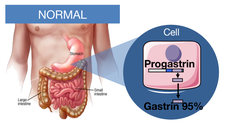
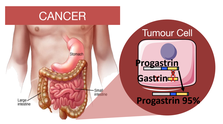
BACKGROUND AND HYPOTHESES



Physiological Condition*

Other than during digestion, healthy people have no progastrin in their blood.

* In the stomach, cells produce progastrin, which is maturated into gastrin. During digestion, 95% of progastrin is released as gastrin from the cell. A very small amount of progastrin is released as progastrin.



Pathological Condition**

Progastrin released from the tumor cell:

- Is required for the survival of cancer stem cells
- Is detectable at early stage of tumor development

** In tumour cells, progastrin is not maturated into gastrin. Progastrin is consequently released from the tumoral cell. This process is independent of digestion.

Hypotheses:

- **Progastrin is present in the primary tumor and in the metastases.**
- **It might thus be used as a biomarker for detection of cancer and follow-up of treatments.**
- **We tested its value as a biomarker for patients with a peritoneum carcinomatosis.**

METHODS

Progastrin concentrations using CancerREAD LAB test®

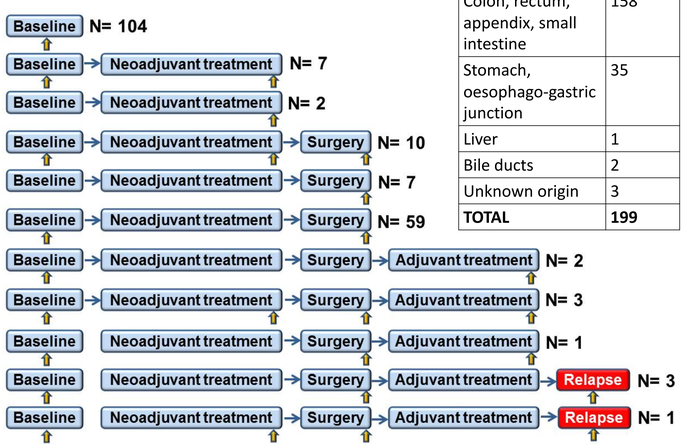
Control Set
French blood donors (N=80 patients)

Test Set
GI cancer patients enrolled in BIG-RENAPE study (N=199 patients)

Diagnostic accuracy and monitoring value ?

PATIENTS and BLOOD SAMPLES

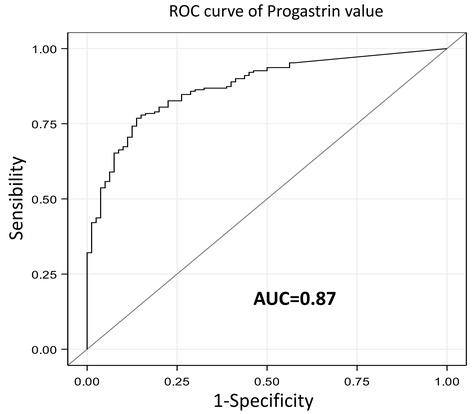
Number of patients for which plasma samples are available at the time points indicated by yellow arrows:



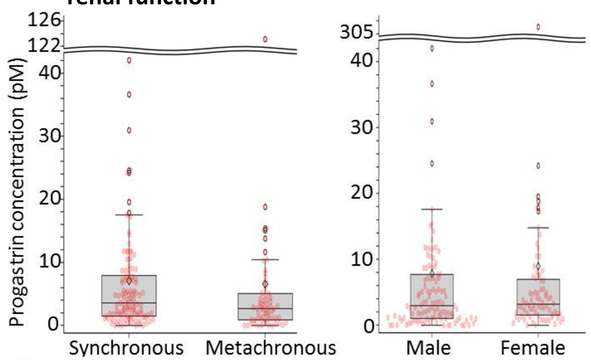
Localization of the primary tumor	N. of patients
Colon, rectum, appendix, small intestine	158
Stomach, oesophago-gastric junction	35
Liver	1
Bile ducts	2
Unknown origin	3
TOTAL	**199**

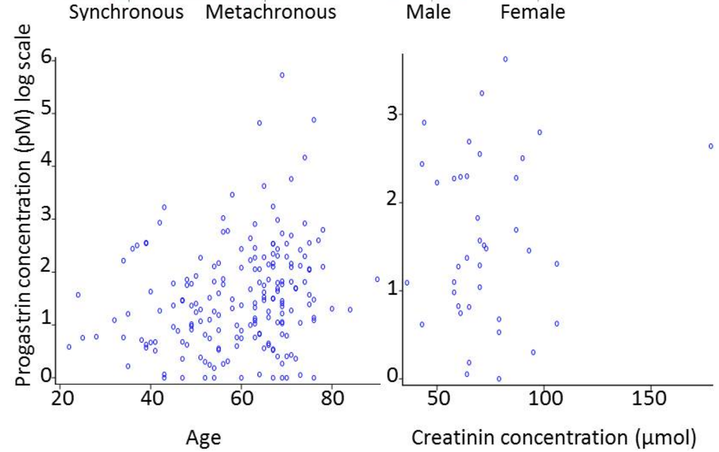
RESULTS

✓ Accuracy for cancer diagnosis at inclusion

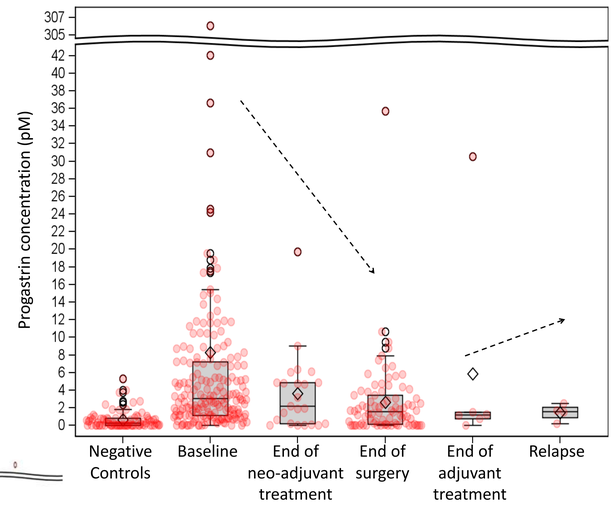


✓ High values in all types of GI cancers: no impact of gender, type of carcinosis, age, renal function

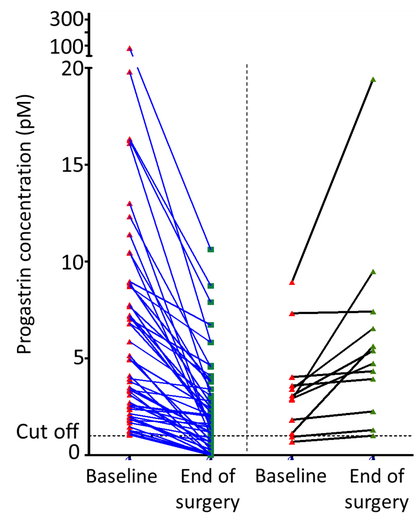




✓ Monitoring value during treatments: progastrin level declines with treatments and increase at relapse



✓ Individual variations of progastrin concentration after surgery:



After surgery, level of progastrin can :
Case 1: go back to normal values,
Case 2: decrease but not go back to normal values
Case 3: stay stable or even increase

How to interpret and use these variations ?
Case 1: patient under surveillance
Case 2: look for residual tumor
Case 3: patients already relapsing

✓ High progastrin values in all types of GI cancers: no impact of primary tumor localization

		Total population	Bile ducts	Colon, rectum, appendix, small intestine	Stomach, oesophago-gastric junction	Liver	Unknown
Progastrin concentration at baseline	N (N missing)	**190 (9)**	2 (0)	151 (7)	33 (2)	1 (0)	3 (0)
	Mean (Std Dev)	**8.31 (26.13)**	9.89 (12.61)	8.52 (29.01)	7.01 (7.88)	0.54 (.)	13.83 (14.96)
	Median (Q1;Q3)	**3.08 (1.15 ; 7.23)**	9.89 (0.97 ; 18.81)	2.78 (1.15 ; 6.84)	4.75 (1.96 ; 8.27)	0.54 (0.54 ; 0.54)	7.12 (3.39 ; 30.97)
	[Min ; Max]	**[0.00 ; 306.07]**	[0.97 ; 18.81]	[0.00 ; 306.07]	[0.05 ; 36.65]	[0.54 ; 0.54]	[3.39 ; 30.97]

CONCLUSIONS

Progastrin assay by CancerREAD LAB Test®

- **Simple and inexpensive blood test**
- **High diagnostic accuracy in GI carcinomas,**
- **Promising longitudinal changes across sequential managements.**

=> PROGATSRIN IS A NEW CANCER BIOMARKER THAT COULD POTENTIALLY BE EFFICIENTLY USED FOR TREATMENT FOLLOW-UP